I = imread('cellsegmentationcompetition.png');

BW = rgb2gray(I);

imshow(BW);

whitePixs = (BW == 255);

otherPixs = ~whitePixs;

outer\_whitePixs = whitePixs & ~imclearborder(whitePixs);

BW(outer\_whitePixs) = -Inf;

figure;imshow(BW);

B = BW > 16;

figure;imshow(B);

O = imopen(B, strel('disk',10));

O = imopen(O, strel('disk',10));

O = imopen(O, strel('disk',10));

CC = bwconncomp(O);

R = regionprops(CC, 'centroid');

centroids = cat(1, R.Centroid);

figure;imshow(O);

hold on;

plot(centroids(:,1),centroids(:,2), 'b\*');

hold off;